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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,048	09/09/2003	Shu Liu	PO-7939/MD-03-28	1953

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EXAMINER

JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,048

Applicant(s)

LIU, SHU

Examiner

Monique R. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 7, 8, 14-17, 19, 25 and 28-30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 7, 8, 14-17, 19, 25 and 28-30 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 6/3/05 has been entered. Claims 2-6, 9-13, 18, 20-24 and 26-27 have been canceled. New claims 28-30 have been added. Claims 1, 7-8, 14-17, 19, 25 and 28-30 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1, 7-8, 14-17, 19, 25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marton et al (USPN 4,241,129) for generally the reasons recited in the prior office action and restated below.

Marton et al teach a delamination resistant multilayer metal/polymer composite comprising a substrate layer of thermoplastic polymer such as a polystyrene or polycarbonate film having a metallized layer on a surface thereof, and then bonding the exposed metal surface to a structural plastic such as the same polycarbonate resin via an adhesive layer (Abstract; Col. 2, line 66-Col. 4, line 25; Examples.) Marton et al teach that the metal layer may preferably be an indium/tin alloy with weight percentages that read upon the instantly claimed ranges, specifically alloy (5) of 0.1 to about 95% tin and 5 to 99.9% indium (Col. 5, line 1-Col. 6, line 6.) Marton et al teach that the metal layer thickness is sufficient to form a substantially continuous layer and less than about 1 micrometer, e.g., from about 0.002 to about 1 micrometer, more preferably from about 0.01 to about 0.5 micrometer, and most preferably from about 0.01 to about 0.3 micrometer (*wherein the Examiner takes the position that this thickness range would*

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encompass the instantly claimed metal layer thickness limitations as recited with respect to light transmittance; Col. 7, lines 13-19.) Marton et al further teach that the thickness of the polymer substrate layer(s) of the composition is not particularly critical but usually is in the range from about 2 to about 10,000 microns, preferably from about 10 to about 500 microns (Col. 4, lines 6-19.) Marton et al teach that the polymer layers are preferably copolyester carbonates or polycarbonates and may contain one or more additive such as dyes, reinforcement fillers, pigments, and the like (Col. 3, line 63-Col. 4, line 6.) Marton et al also teach that the adhesive layer is preferably formed from polyurethanes or polystyrene block copolymers (Col. 7, lines 23-Col. 8, lines 13.) In terms of the limitations with respect to the adhesive layer such as “water-based”, “solvent-based”, “hot melt”, “dispersion” and “viscosity value”, the Examiner takes the position that these limitations are process limitations that do not materially affect the claimed final product considering the final product comprises a dried or solid adhesive layer.

As previously recited, Marton et al do not specifically teach that the surface of the polymer or polycarbonate layers have a matte or glossy finish as claimed. However, it is conventional in the art to provide a polymer surface with a desired surface finish, whether matte or glossy, based on the desired aesthetic properties or desired end use of the product wherein it would have been obvious to one skilled in the art to determine whether the polymer surfaces of the composite taught by Marton et al should be provided with a matte or glossy finish based on the desired end use of the product. Further, though Marton et al do not specifically teach that the metal layer thickness is such that the resulting light transmittance is as instantly claimed, one having ordinary skill in the art at

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the time of the invention would have been motivated to utilize routine experimentation to determine the optimum metal layer thickness within the range taught by Marton et al to provide the desired reflective and decorative properties for a particular end use, wherein the range taught by Marton et al would encompass a thickness resulting in the claimed light transmittance. Similarly, one skilled in the art at the time of invention would have been motivated to utilize any of the metal alloys taught by Marton et al and to determine the optimum metal alloy composition within the weight ranges taught by Marton et al based on the desired end use of the composite as taught by Marton et al.

With respect to instant claims 7 and 8, the Examiner takes the position that Marton et al teach that the polymer layers may both be the same polycarbonate material and hence reads upon the limitation "compositionally identical" and further Marton et al teach that the polymer layer(s) may contain additives wherein the inner polymer layer comprises reinforcement fillers and hence would be compositionally different from the outer layer.

Response to Arguments

4. Applicant's arguments filed 6/3/05 have been fully considered but they are not persuasive. The Applicant first argues that Marton et al do not teach or suggest the instantly claimed combination of "glossy" and "matte" surfaces and also argues that the instant combination provides particular benefits beyond just aesthetic properties. However, the Examiner notes that the Applicant has not provided any showing of unexpected results with regards to the particular combination of "glossy" and "matte", for example, it is known that a glossy surface provides a mirror-like appearance on a metal

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layer. The Examiner further notes that if the Applicant contends that this particular combination of “glossy” and “matte” surfaces provides “unexpected improvements” over the prior art, it would be difficult for one skilled in the art to understand how to avoid infringement considering the Applicant provides no clear definition of the terms “glossy” and “matte” and since these are relative terms, one skilled in the art could not clearly interpret the metes and bounds of the claims. The Applicant further argues that Marton et al do not teach a metal layer comprising an indium/tin alloy as claimed and having the instantly claimed thickness. The Examiner respectfully disagrees. Marton et al teach that the metal layer may be formed by an alloy of two or more metals and specifically teaches a preferred alloy (5) comprising 0.1 to about 95% tin and 5 to 99.9% indium which completely encompasses the instantly claimed ranges and hence reads upon the claims considering the Applicant has not provided any showing of criticality or unexpected results with regards to the tin/indium content. Lastly, as recited above, though Marton et al do not specifically teach that the metal layer thickness is such that the resulting light transmittance is as instantly claimed, one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum metal layer thickness within the range taught by Marton et al to provide the desired reflective and decorative properties for a particular end use, wherein Marton et al teach that the metal layer thickness is sufficient to form a substantially continuous layer and less than about 1 micrometer, e.g., from about 0.002 to about 1 micrometer, more preferably from about 0.01 to about 0.5 micrometer, and most preferably from about 0.01 to about 0.3 micrometer, which would encompass the instantly claimed metal layer thickness with respect to light transmittance. Therefore, considering there is no showing

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of criticality or unexpected results on the record, the Examiner maintains her position that the instant invention would have been obvious over the invention taught by Marton et al.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

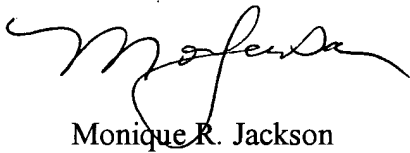
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Monique R. Jackson', with a stylized, flowing script.

Monique R. Jackson
Primary Examiner
Technology Center 1700
August 11, 2005